

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
2 June 2005 (02.06.2005)

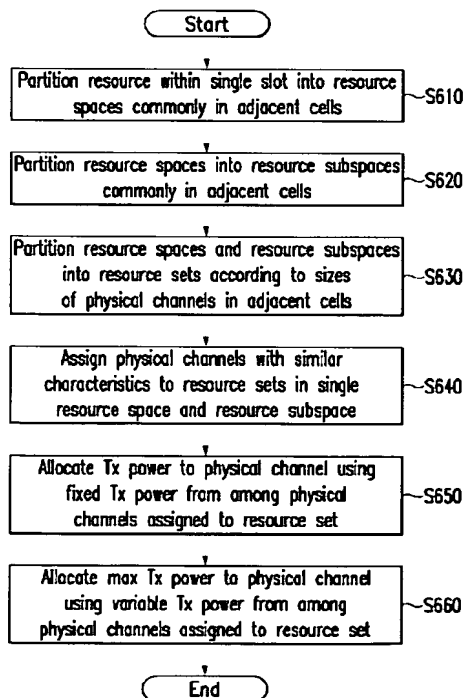
PCT

(10) International Publication Number
WO 2005/050873 A1

- (51) International Patent Classification⁷: H04B 7/208, H04Q 7/38, H04L 27/26
- (21) International Application Number: PCT/KR2004/002278
- (22) International Filing Date: 8 September 2004 (08.09.2004)
- (25) Filing Language: English
- (26) Publication Language: English
- (30) Priority Data: 10-2003-0082150
19 November 2003 (19.11.2003) KR
- (71) Applicant (for all designated States except US): ELEC-TRONICS AND TELECOMMUNICATIONS RE-SEARCH INSTITUTE [KR/KR]; 161 Gajeong-dong, Yuseong-gu, Daejeon 305-350 (KR).
- (72) Inventors; and
- (75) Inventors/Applicants (for US only): AHN, Jae-Young [KR/KR]; Expo Apt. 105-806, Jeonmin-dong, Yuseong-gu, Daejeon-City 305-761 (KR). KIM, Kwang-Soon [KR/KR]; Hajin Town Apt. 120-1403, Haengdang-dong, Seongdong-gu, Seoul 133-777 (KR).
- (74) Agent: YOU ME PATENT AND LAW FIRM; Seolim Bldg., 649-10, Yoksam-dong, Kangnam-ku, Seoul 135-080 (KR).
- (81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

[Continued on next page]

(54) Title: METHOD FOR PARTITIONING RESOURCE SPACE, ASSIGNING PHYSICAL CHANNEL, AND ALLOCATING POWER IN OFDMA-BASED CELLULAR SYSTEM



(57) Abstract: Disclosed is a method for partitioning resource spaces, and allocating physical channels and power in an OFDMA-based cellular system. A resource within a slot is partitioned into resource spaces in common in a plurality of adjacent cells, and the partitioned resource spaces are partitioned into resource sets according to sizes of physical channels in the adjacent cells. The physical channels classified by predetermined characteristics are respectively assigned to the partitioned resource sets within the resource space. Further, the resource space for transmitting traffic channels between two different cells is partitioned into resource spaces so that the traffic channels in the same subspace may be collided with each other, and a power control is applied between the collided channels to control the interference from the adjacent cells.



(84) **Designated States** (*unless otherwise indicated, for every kind of regional protection available*): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

Published:

— *with international search report*